REMARKS

Claims 1-20 are all the claims pending in the application. Reconsideration and allowance of claims 1-20 are respectfully requested in view of the following remarks.

I. Prior Art Rejections

Claims 1-17 and 20

Claims 1-17 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,483,846 to Huang et al. (hereinafter "Huang") in view of U.S. Patent No. 6,754,226 to Nakano (hereinafter "Nakano"). Applicant respectfully traverses this rejection because the references fail to teach or suggest all of the unique elements as set forth and arranged in the claims. Applicant respectfully requests the Examiner to ***carefully reconsider*** this rejection in view of the following exemplary comments.

In conventional techniques, user devices transmit data in synchronous communication where the data includes real-time data and non real-time data. Real-time data forms a peripheral image that includes a number of data sets processed by various user devices. Each user device may process only a portion of the peripheral image *i.e.*, only some data sets, in each cycle. However, all of the data of the peripheral image is exchanged in each communication cycle regardless of whether all of the data sets have been updated. Since some of the data sets are not updated/processed, such transmissions are wasteful and inefficient.

In an exemplary, non-limiting embodiment, however, only updated data sets of the peripheral image are transmitted in each communication cycle. That is, in an exemplary, non-limiting embodiment, the transmission cycle is divided into a partial cycle for planning real-time

communication and another partial cycle for unplanned non real-time communication. This division between the two parts of the cycle is dynamically programmable *as a function of the cycle number*. For example, it may be known that only data sets A and B are processed in first cycle in device A. Based on the foregoing, one would know that the real time partial cycle must be adequate to transmit data sets A and B but not data sets C, D, and E, for example. In short, *based on the cycle number*, the length of the real-time part of the cycle is dynamically determined *e.g.*, Figs 2 and 3.

It will be appreciated that the foregoing remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any claims and are intended only to help the Examiner better understand the distinguishing aspects of the claim mentioned further below.

Independent claims 1, 6, 10, and 14 *inter alia* and in some variation recite: "determining a cycle number of a particular transmission cycle." The Examiner maintains his position that Huang teaches this unique feature of the independent claims at col. 5, lines 34-40. *See* pages 3-6 of the Office Action. In particular, the Examiner alleges that Huang teaches the above-noted unique feature of claims 1, 6, 10, and 14 by "using a particular repetitive cycle and implementing deterministic schedule to schedule packets in a particular transmission cycle." *See* page 2 of the Office Action. Applicant respectfully disagrees with the Examiner's interpretation of the Huang reference.

In Huang, "[a] bandwidth partition scheme is implemented such that for a given repetitive cycle of time, MRTE layer 150 implements a deterministic schedule for packets in the real time queue." *See* col. 5, lines 34-37. Nothing in Huang is disclosed, however, with respect to

determining a cycle number of a particular transmission cycle, as recited in claims 1, 6, 10 and 14. Applicant respectfully submits that from the fact itself that MRTE layer 150 implements a deterministic schedule for packets, an artisan skilled in the art would not infer that a cycle number is also determined, *e.g.,* this is the third cycle.

Furthermore, "[t]he MRTE layer 150 is further divided into . . . deterministic scheduling services 220 . . . Deterministic scheduling services 220 contains a collision resolution protocol 235, an MRTE protocol 240, and an MRTE scheduler 245 and its associated deterministic scheduling algorithm 250." *See* col. 5, lines 51-54 and lines 63-66. Flowcharts of elements 240, 240, 245 and 250 are depicted in FIGs. 6-9. Nowhere in these flowcharts a cycle number of a particular transmission cycle is determined. Also, nowhere in the description of these FIGs. a cycle number is mentioned. As a result, Huang fails to disclose or even suggest "determining a cycle number of a particular transmission cycle," as recited in claims 1, 6, 10 and 14.

In addition, claims 1, 6, 10, and 14 *inter alia* and in some variation recite: "wherein the transmission sequence is composed of one or more partial sequences, the composition of which depends on the determined cycle number, and wherein the cycle number determines which of the partial sequences are transmitted in the particular transmission cycle." The Examiner acknowledges that Huang fails to disclose or suggest this unique feature of claims 1, 6, 10, and 14 but cites Nakano for allegedly curing the above-identified deficiency of Huang. *See* pages 3-7 of the Office Action. More specifically, in response to Applicant's arguments, the Examiner alleges that in Nakano "[t]he transmission sequence depends on each communication cycle and composition [of the cycle] depends on whether or not Iso packets are present in the cycle or not."

See page 2 of the Office Action. Applicant respectfully disagrees with the Examiner's interpretation of the Nakano reference.

Applicant further respectfully submits that the Examiner's response is a mere allegation not substantiated by factual evidence. The Examiner fails to show *where* Nakano allegedly discloses this dependency. Furthermore, the Examiner appears to disregard Applicant's argument that Nakano does not disclose or suggest the composition of the cycle depending on the number of the cycle *e.g.*, if this is cycle number three, only device A and B are updated such that only data sets A and B need to be transmitted.

Applicant further respectfully notes that Nakano refers to "[d]ata transmission over an IEEE 1394 standard bus." *See* col. 4, lines 50-51. The structure of a communication cycle for data transmission over such a standard bus is depicted in FIG. 4. "A predetermined number of channels (or bands) are reserved for Iso packets in every communication cycle." *See* col. 5, lines 2-4. "The bandwidth available register tracks the number of channels, allocated for isochronous communication." *See* col. 5, lines 34-36.

In other words, there is a predetermined number of channels that is always reserved for Iso packets. The Examiner contends that the number of channels determines partial sequences, as recited in claims 1, 6, 10, and 14. *See* page 3 of the Office Action. That is, there might be more or less channels in use and depending on the number of channels in use, a partial sequence is allegedly defined. Further, the Examiner contends that "depending on whether Iso packets are present or not, the transmission sequence is determined." *See* page 3 of the Office Action.

In other words, Nakano allegedly teaches that whenever Iso packets need to be transmitted, a channel is allocated and used for such a transmission. The more Iso packets are to be transmitted the more channels are allocated. Accordingly, a partial sequence is allegedly defined depending on the number of Iso packets and the number of corresponding channels which varies. However, what Nakano does not teach is that the cycle number (and not the number of Iso packets to be transmitted) determines the composition of the transmission sequence and thereby which of the partial sequences are transmitted in the particular transmission cycle, as recited in claims 1, 6, 10, and 14. In Nakano, even under a broad interpretation, a partial sequence, if at all, is defined by the number of Iso packets to be transmitted and not by a cycle number. In short, in Nakano, the cycle number is irrelevant. That is, Nakano does not disclose dividing the cycle into two parts as a function of the cycle number so that only updated data sets of the peripheral image are transmitted in each communication cycle.

As a consequence, the combined teachings of Huang and Nakano would not have led the artisan of ordinary skill to have achieved the subject matter of independent claims 1, 6, 10, and 14. Therefore, Applicant respectfully requests that the rejection of claims 1, 6, 10 and 14 under 35 U.S.C. § 103(a) be reconsidered and withdrawn. Since claims 2-5, 7-9, 11-13, 15-17, and 20 depend on claims 1, 6, 10 and 14, respectively, they are patentable at least by virtue of their dependencies.

Claims 18 and 19

Claims 18 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang and Nakano in view of U.S. Patent No. 6,505,247 to Steger it al. (hereinafter "Steger").

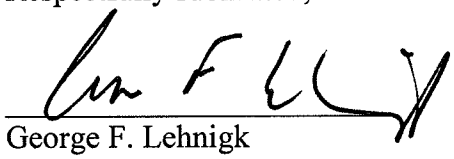
Claim 18 and 19 depend on claim 1. Steger does not remedy the deficiencies of Huang and Nakano and thus claims 18 and 19 are patentable over the prior art of record at least by virtue of their dependencies from claim 1.

II. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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